EPA Design for the Environment (DfE) Auto Refinish Project

National Training Workshop on Local Urban Air Toxics Assessment & Reduction Strategies

Session 3 - Reducing Exposures & Emissions from Stationary Sources

November 15, 2001 Detroit, MI

Goal of DfE Project

To motivate shops to adopt best practices and technologies that reduce risk and pollution

Profile of Auto Refinish Industry

- 60,000 shops, >150,000 refinishers
- Shops use & release harmful chemicals in paint (diisocyanates, VOCs, hazardous air pollutants)
- Diisocyanates are the leading cause of occupational asthma
- Emissions may pose a risk to nearby residents

Philadelphia Auto Refinish Industry

- > 400 shops
- Painters do not use adequate personal protective equipment
- Neighborhood complaints
- DfE project complements other initiatives focused on this industry, e.g., local, state VOC regulations

Air Emissions during Spray Painting

- All volatile components released to atmosphere, e.g., VOCs, HAPs, and diisocyanate monomer (HDI)
- Some non-volatile components released in the spray mist, e.g., other diisocyanates (hardeners in clearcoats)
- Spray mist may pass through ventilation filters and be released outside the shop

Challenges Facing Shops

- Adequate respiratory and dermal protection during spray painting and related activities
- Proper use of HVLP spray guns to reduce paint over spray and emissions
- Affordable control technology to reduce shop emissions
- Time/resource constraints

Outline of DfE Approach

- Focus on shop & community issues
- Coordinate with other initiatives
- Focus on significant risk & pollution issues
- Build active partnerships
- Conduct hands-on site visits to identify & encourage best practices and technologies
- Identify benefits, costs, and barriers to improvement

Community/Regional Issues

- Community concerns about air emissions and potential hazard to residents near shops
- Natural alliance since DfE focuses on improving shop practices that will benefit worker, owner, community, and environment

Significant Risk & Pollution Issues

- Shops use & release hazardous chemicals
- Worker health concerns
- Air emissions may pose a risk to nearby residents
- Paint/solvent waste, VOCs, hazardous air pollutants, dust

Building Partnerships

- Define goal and clear message
- Establish trust with shops, painters
- Provide “hands-on” consultation by an experienced team
- Demonstrate results, benefits
- Encourage participation by key stakeholders

Best Practices - Spray Painting

- Use a spray booth or prep stations for *all* spray painting tasks
- Use proper respiratory protection
- Wear chemical-resistant gloves and other protective clothing
- Use HVLP spray guns with proper technique for all applications

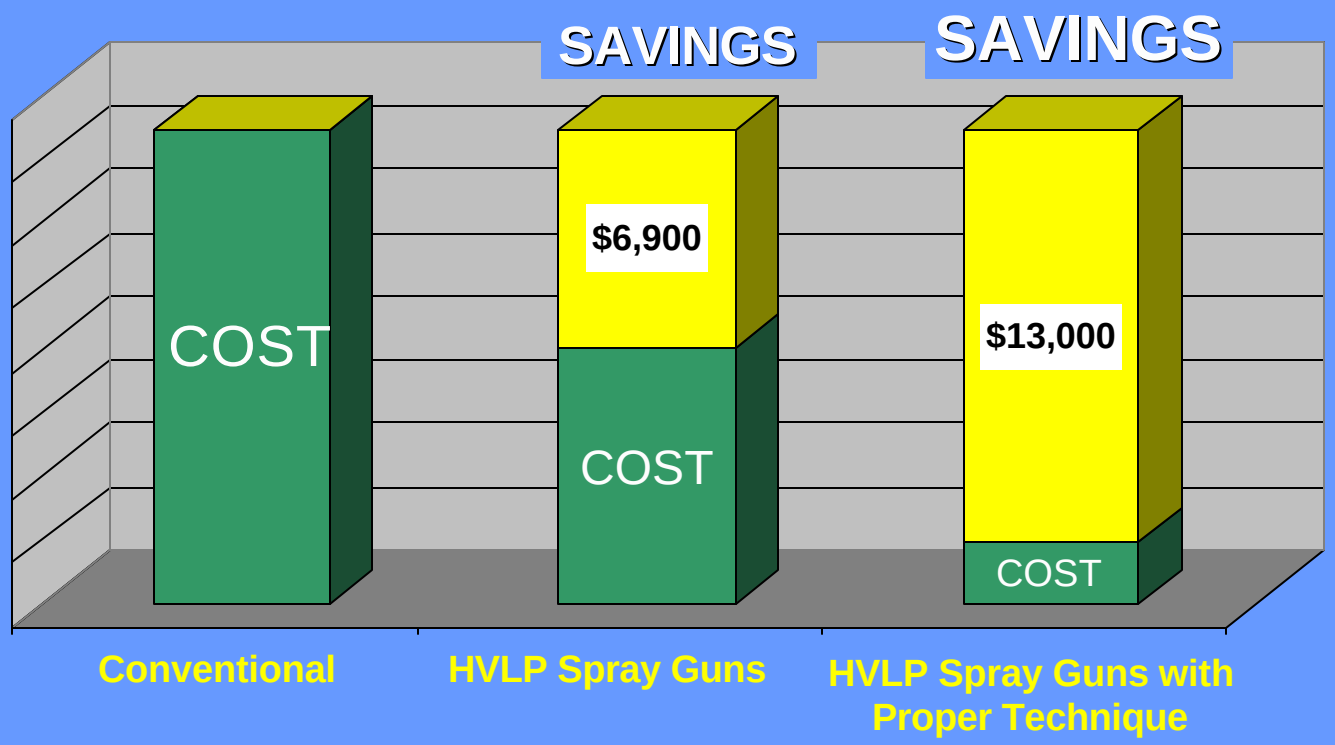
HVLP Spray Gun: Benefits, Costs, Barriers

- Increases transfer efficiency and reduces paint overspray and emissions
- Reduces paint costs
- Healthier painters, fewer sick days

But…

- Requires training/practice to improve technique

Paint Cost Savings with HVLP Spray Guns



DfE Auto Refinish Project
www.epa.gov/dfe/projects/auto

* Estimated annual savings, based on 420 gal/yr
Courtesy of the STAR Program, IWRC

Comments on Benefits

"Since working with the DfE program, our shop has converted over to using 100% HVLP equipment. And we are seeing less paint used for each job just because our guns are set up for the optimum pressure and best paint coverage."

- **Mario Capone**, Manager
  Orsini Collision, Ardmore,PA
  "Auto Body Repair News," Nov. "00

Factors That Motivate Change

- Lower costs
- Similar or better performance
- Easier to meet regulatory requirements
- Reduced pollutant emissions
- Better worker protection and satisfaction
- Cleaner, healthier work environment

Comments by Partner Shops

"Recently I volunteered to have the DfE team come to my shop to review our equipment and procedures for compliance. I am glad that I did."

– **Chet Elia**, Director
Collision Division, PA AASP
"PA Automotive," February 2001

Comments by Partner Shops

"The best part of the DfE program for me has been the exchange of ideas when the group meets to discuss the partner shops' progress…and besides, who wants to work in unsafe or possibly toxic conditions?"

- **Warren Ferebee**
  Cynwyd Auto Body Shop
  "Automotive Journal," Nov. '99

Role : Painters & Technicians

- Know what chemicals are being used and how to use them safely
- Use and maintain appropriate protective equipment
- Minimize emissions with best practices and technologies to ensure a safe, healthy shop and neighborhood

Role : Shop Owners

- Institute a Health & Safety Program with Hazard Communication and training
- Establish a Respiratory Protection Program
- Provide user-friendly protective equipment
- Ensure that *best practices* are part of the standard operating procedures

Role : Paint Industry

- Develop and formulate *safer* products
- Ensure that a comprehensive health & safety program *reaches* the end-user
- Extend product stewardship to shops; help ensure adoption of best practices

Role : Insurance Industry

- Include health & safety procedures in allowable costs
- Provide incentives to encourage shops to adopt best practices

Developing an Effective Outreach Strategy

Expositions, Workshops

Trade Associations, Paint & Equipment Suppliers, Insurance

Community Initiatives

Vocational Schools, Training Centers, STAR Program (IWRC)

Environmental Assistance Providers

Virtual Auto Body Shop, DfE web site and other Internet Resources

Resources

- **DfE auto refinish project**
  - **www.epa.gov/dfe/projects/auto**
- **Virtual auto body shop**
  - **www.ccar-greenlink.org/cshops**

Contacts

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Auto Refinish Project

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